

IN THE DRAWINGS:

Please substitute the attached Replacement Sheets of drawings for the corresponding original sheets. Figs. 1-4 have been amended as shown in red in the attached Annotated sheets.

REMARKS

Applicant has studied the Office Action dated April 18, 2005 and has made amendments to the claims. It is submitted that the application, as amended, is in condition for allowance. Claims 1-19 are pending. Claims 1-3 and 13 have been amended. Reconsideration and allowance of the claims in view of the above amendments and the following remarks are respectfully requested.

Applicant thanks the Examiner for withdrawing the restriction requirement.

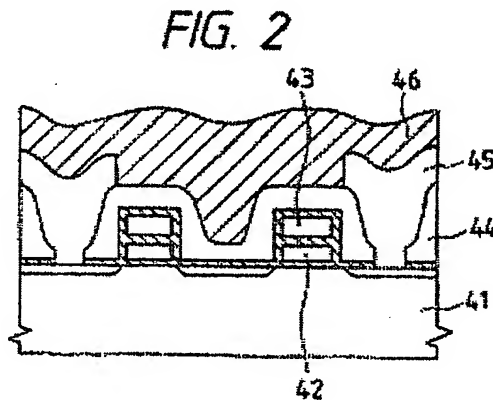
The drawings were objected to because Figures 1-4 were not designated by a legend such as "Prior Art". Please substitute the attached Replacement Sheets for the corresponding original sheets. Figures 1-4 have been amended as shown in red on the attached Annotated Sheets. In particular, Figures 1-4 have been labeled "Prior Art" as requested by the Examiner. No new matter has been added. In light of these amendments, it is submitted that the objection to the drawings should be withdrawn.

Claims 1, 8, 13, and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Tamura et al. (U.S. Patent No. 5,877,095). Claims 2-5, 14, and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tamura et al. in view of Applicant's Admitted Prior Art ("AAPA"). Claims 6, 7, 9-12, 16, 18, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tamura et al. in view of Shin et al. (U.S. Patent Application Publication No. 2002/0063334). These rejections are respectfully traversed.

Applicant has amended independent claims 1 and 13. Claims 1 and 13 now recite:

forming a transparent layer of nitride UV above the layer of BPSG; and
**after the step of forming the transparent layer of nitride UV, etching
the transparent layer of nitride UV so as to form at least one contact opening.**
(Emphasis added).

The Tamura reference discloses a semiconductor device with a silicon nitride film 46 that serves to cover and protect at least one A1 wiring line 45 that is formed through a BPSG inter-layer insulating film 44, as shown in Figure 2. Tamura at 4:52-5:5. The A1 wiring line 45, which the silicon nitride film protects, provides connectivity to the substrate that is below the BPSG layer. **The silicon nitride film 46 covers the A1 wiring line and is never etched in the manufacturing process of Tamura.**



Tamura et al.

In contrast, in embodiments of the present invention, a layer of silicon nitride is provided for a different reason. A silicon nitride layer is formed on a layer of BPSG before opening contacts. See FIGs. 5 & 6. The silicon nitride NIT avoids the direct contact of the later added BARC and resist materials with the BPSG layer (shown as the large cross-hatched area in FIGs. 5 & 6, see also 5:16-18.). Corrosion of the BPSG layer, which makes contact definition impossible and therefore reduces yield, is avoided with this process. See 5:18-20. Once the barrier layer NIT is deposited (FIG. 5), etching is performed (FIG. 6) to expose the contact. See 5:24-26.

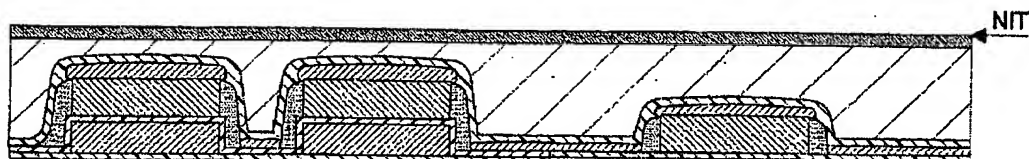


Fig. 5

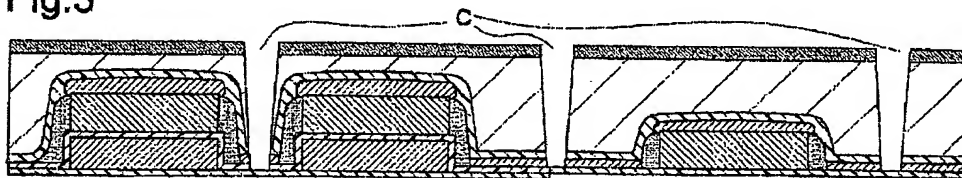


Fig. 6

Because Tamura does not etch the silicon nitride film, Tamura clearly does not disclose etching the layer of nitride UV so as to form contact openings after forming the layer of nitride UV, as recited in amended claims 1 and 13.

Applicant believes that the differences between Tamura and the present invention are clear in amended claims 1 and 13, which set forth various embodiments of the present invention. Therefore, claims 1 and 13 distinguish over the Tamura reference, and the rejection of these claims under 35 U.S.C. § 102(b) should be withdrawn.

As discussed above, amended claims 1 and 13 distinguish over the Tamura reference. Furthermore, the claimed features of the present invention are not realized even if the teachings of the AAPA or Shin are incorporated into Tamura. Neither the AAPA nor Shin teaches or suggests the claimed features of the present invention that are absent from Tamura. Thus, claims 1 and 13 distinguish over Tamura, the AAPA, and Shin, and thus, claims 2-12, and claims 14-19 (which depend from claims 1 and 13, respectively) also distinguish over Tamura, the AAPA, and Shin. Therefore, it is respectfully submitted that the rejections of claims 1-19 under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) should be withdrawn.

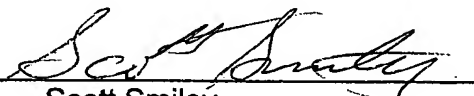
No amendment made herein was related to the statutory requirements of patentability unless expressly stated. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

In view of the foregoing, it is respectfully submitted that the application and the claims are in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is invited to call either of the undersigned attorneys at (561) 989-9811 should the Examiner believe a telephone interview would advance the prosecution of the application.

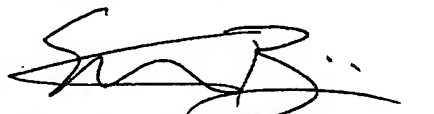
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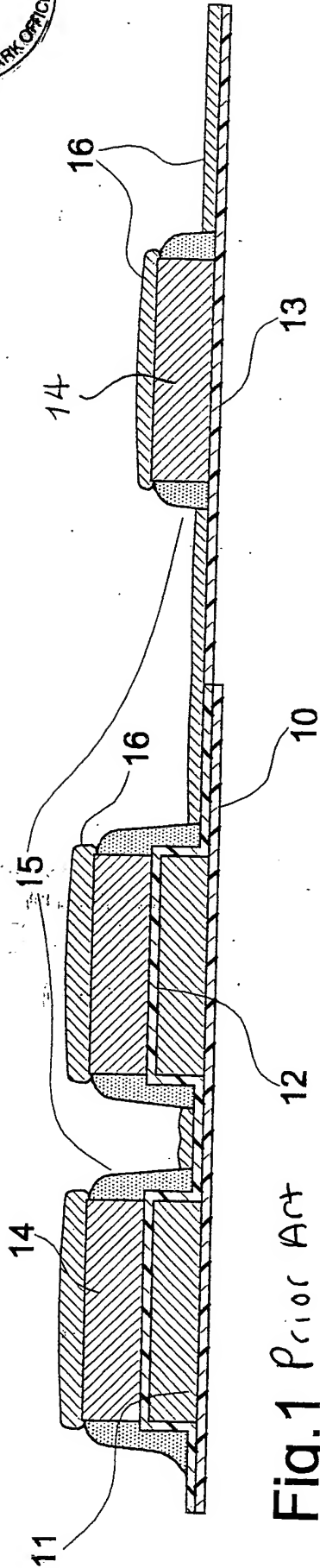


Fig. 1 Prior Art

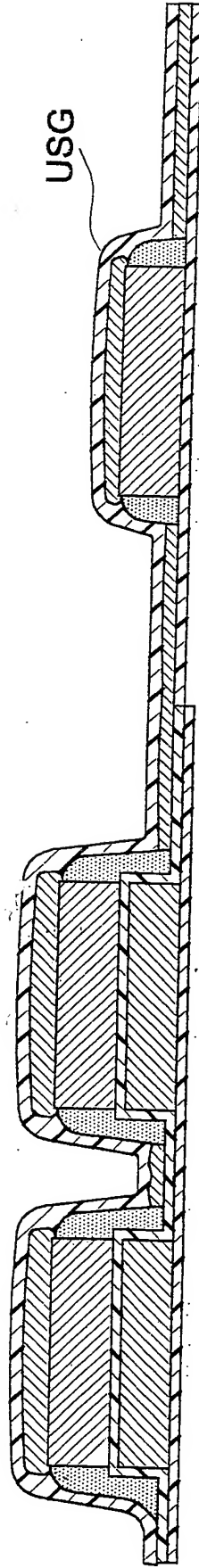


Fig. 2 Prior Art

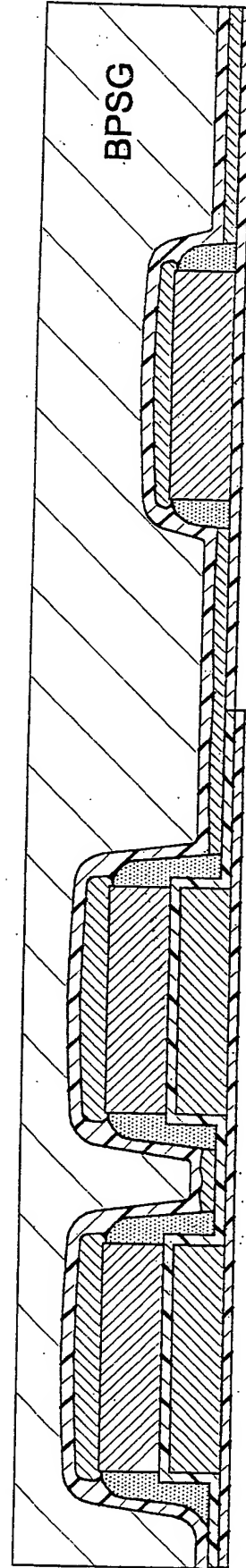


Fig. 3 Prior Art

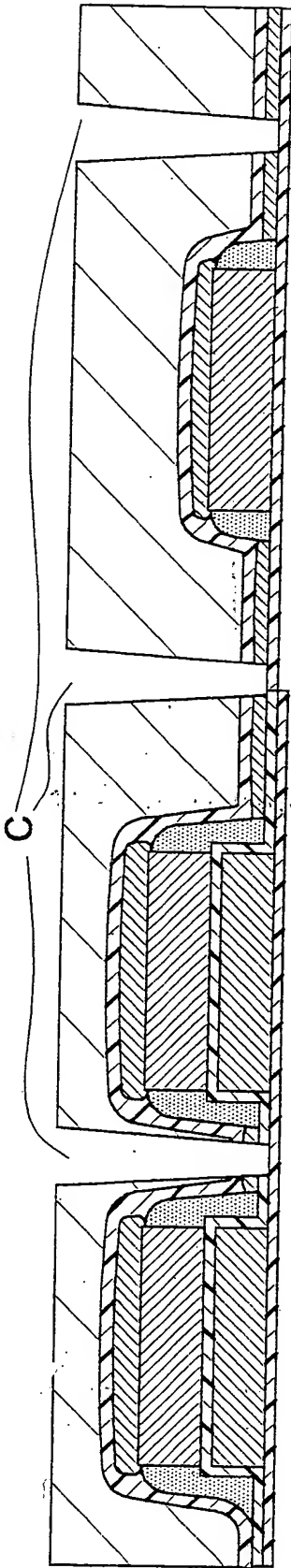


Fig. 4 Prior Art

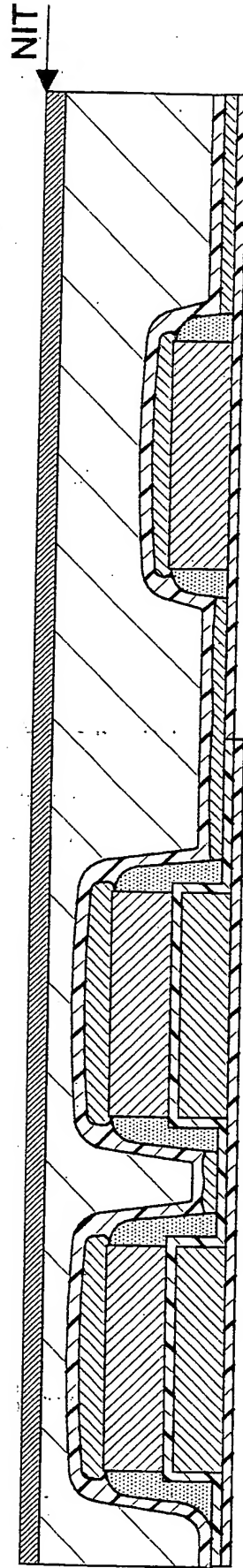


Fig. 5

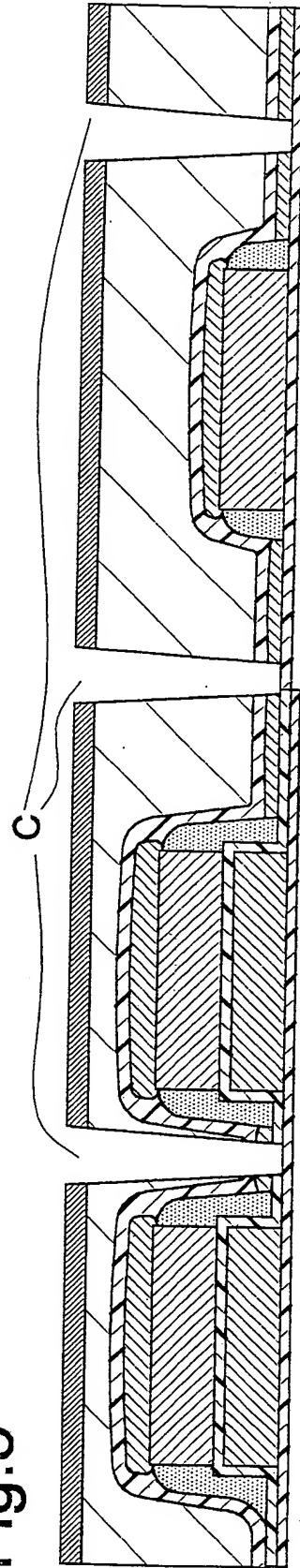


Fig. 6